

(19) World Intellectual Property Organization  
International Bureau



30 SEP 2004



(43) International Publication Date  
23 October 2003 (23.10.2003)

PCT

(10) International Publication Number  
**WO 03/086580 A1**

(51) International Patent Classification<sup>7</sup>: **B01D 46/00**,  
F01N 3/00, 3/023, 3/033, 3/36

(21) International Application Number: PCT/US02/40107

(22) International Filing Date:  
16 December 2002 (16.12.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/372,238 12 April 2002 (12.04.2002) US

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(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW). Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM). European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR). OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

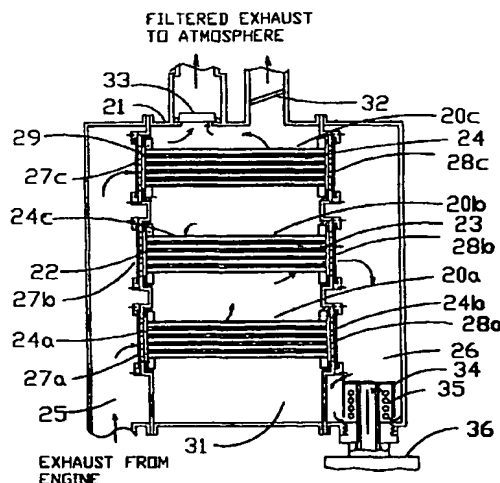
Published:

with international search report

— with amended claims

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: APPARATUS AND METHOD FOR FILTERING PARTICULATE AND REDUCING NO<sub>x</sub> EMISSIONS



(57) Abstract: An apparatus and method for filtering particulate from an internal combustion engine by use of monolithic particulate trap systems having porous walls (2c, 24c). The porous walls (2c, 24c) filter the particulate. The filtered particulate on inner surfaces of the porous walls is periodically removed or regenerated via back flow of previously filtered exhaust gas. The back flow is caused by creating a pressure difference across the porous walls. The back flow of the previously filtered exhaust gas is simultaneously or sequentially coupled with high velocity through flow of exhaust gas in the channels. In addition, the particulate trap system can be an adsorber-catalyst particulate trap system for filtering particulate and reducing NO<sub>x</sub> via an adsorber-catalyst trap systems to achieve the EPA 2007 standards.



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